APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,707	03/11/2004	Alexander Reznik	I-2-0489.1US	6208

24374   7590   12/09/2008
VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER
MALEK, LEILA

ART UNIT	PAPER NUMBER
2611	

MAIL DATE	DELIVERY MODE
12/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/798,707	REZNIK ET AL.
		Examiner	Art Unit	
		LEILA MALEK	2611	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2008*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-13 and 16-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-13 and 16-19* is/are rejected.

7)☒ Claim(s) *20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *10/09/2008*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail. Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1 and 10 have been considered but are moot in view of the new ground of rejection.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4 and 7-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-4 and 7-9 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claims do not positively tie the claimed subject matter to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-4, 7-13, and 16-19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jeong et al. (hereafter, referred as Jeong) (US 6,725,016), in view of

Rege et al. (hereafter, referred as Rege) (US 6,532,222).

        As to claims 1 and 10, Jeong discloses a wireless communication method for

assigning multi-paths to Rake receiver fingers (see the abstract, column 1, lines 8-12,

and column 2, lines 42-47), the method comprising: establishing a Rake finger

assignment database (see the abstract and column 2, last paragraph); categorizing a

plurality of multi-path signals in the database into a verified group (the states of

"Assigned" and "Potential" have been interpreted as a verified group, because for multi-

paths in "Assigned" and "Potential" states the SNR value must be higher than a

threshold over N_ACCEPT consecutive times (i.e. interpreted as detection of a multi-

path more than once)) (see Fig. 4, column 5, lines 24-50, and column 7, lines 24-40)

and an unverified group (i.e. the "Temporary" state), wherein the verified group includes

multi-path signals that have been detected more than once and the unverified group

includes multi-path signals that have not been detected more than once; categorizing

the multi-path signals in the verified group into an assigned subgroup (i.e. the

"Assigned" state) and an unassigned subgroup (i.e. the "Potential" state), wherein each

of the multi-path signals in the assigned subgroup is assigned to a Rake receiver finger

and each of the multi-path signals in the unassigned subgroup is not assigned to a

Rake receiver finger (see column 6, lines 16-22). Jeong further discloses that each

multi-path signal is assigned a respective bin in the database that includes a data

structure having a verification flag data field (see column 9, lines 10-20). Furthermore,

Jeong teaches comparing each newly measured multi-path signal to the multi-path

signals in the database to determine if each newly measured multi-path signal is found

in the database (see the abstract and column 2, last paragraph). Jeong does not

expressly disclose that if a multi-path signal in the data base that belongs to the

unassigned subgroup matches a newly measured multi-path signal, setting the flag

such that it indicates that the multipath signal is verified. Since Jeong teaches

categorizing a multi-path signal, by using a flag (see column 9, lines 10-20), under a

verified group (the states of "Assigned" and "Potential"), if it has been detected more

than once, he inherently teaches that if a multi-path signal in the data base that belongs

to the unassigned subgroup (i.e. the "Potential" state) matches a newly measured multi-

path signal (it means that the multi-path signal has been detected more that once),

setting the flag (i.e. changing the state of the signal) such that it indicates that the

multipath signal is verified. Jeong teaches all the subject matters claimed in claims 1

and 10, except that there is a pilot phase data field for each multi-path signal. Jeong

also does not disclose updating the relative phase of the multi-path signal in the pilot

phase data field. Rege, in the same field of endeavor, discloses a wireless

communication apparatus for assigning multi-paths to rake receiver fingers (see the

abstract). Rege discloses that the apparatus includes a live set database for creating

and updating entries corresponding to phases of active pilot (multi-path) signals that

have been assigned to rake fingers (see column 4, lines 51-57). Rege further includes

that the database 110 includes a plurality of entries that correspond to phases of active

pilot signals at which multi-paths are believed to be present, wherein each entry

includes at least a respective data field for phase parameter 202 (see Fig. 2, block 202).
It would have been obvious to one of ordinary skill in the art at the time of invention, to
modify Jeong as suggested by Rege to have phase information for each multipath and
improve the signal to noise ratio and therefore improve the communication quality (see
column 2, last paragraph and column 7, lines 32-61).

As to claims 2 and 11, Jeong further discloses (d) comparing the signal strength
of each multi-path signal to a predetermined noise floor threshold; and (e) if the signal
strength of the multi-path signal is less than the noise floor threshold, removing
(rejecting) the multi-path signal from the database (See the abstract and column 5, lines
51-60).

As to claims 3 and 12, Jeong further discloses that if the removed multi-path
signal is categorized in the assigned group, the Rake receiver finger is no longer
assigned to the removed multi-path signal (see Fig. 4).

As to claims 4 and 13, Jeong further discloses receiving a plurality of newly
measured multi-path signals, during a measurement interval; comparing each newly
measured multi-path signal to the multi-path signals in the database to determine if
each newly measured multi-path signal is found in the database; and if a newly
measured multi-path signal is not found in the database, adding the newly measured
multi-path signal to the database (see the abstract and column 2, last paragraph).

As to claims 7 and 16, Rege, discloses a finger assignment logic that confirms
the presence and quality of a multi-path before assigning a parallel finger to that multi-
path (see the abstract and column 1, first paragraph). Rege further discloses a pending-

set database 110 (see column 6, last paragraph), which includes a plurality of entries

that correspond to phases of active pilot signal at which multi-paths are believed to be

present. It would have been obvious to one of ordinary skill in the art at the time of

invention to modify Jeong as suggested by Rege to enhance the signal-to-noise ratio of

the combined demodulated paths in a rake receiver and as the result improve the

quality of the wireless communication (see column 7, lines 32-61).

     As to claims 8 and 17, Rege discloses a finger assignment logic that confirms the

presence and quality of a multi-path before assigning a parallel finger to that multi-path

(see the abstract and column 1, first paragraph). Rege further discloses a pending-set

database 110 (see column 6, last paragraph), which includes a plurality of entries that

correspond to phases of active pilot signal at which multi-paths are believed to be

present, wherein each entry includes a power parameter 204. Rege discloses that the

power parameter is the averaged normalized power measured at that phase (see

column 9, last paragraph). It would have been obvious to one of ordinary skill in the art

at the time of invention to modify Jeong as suggested by Rege to enhance the signal-to-

noise ratio of the combined demodulated paths in a rake receiver and as the result

improve the quality of the wireless communication (see column 7, lines 32-61).

     As to claims 9 and 18, Rege discloses a finger assignment logic that confirms the

presence and quality of a multi-path before assigning a parallel finger to that multi-path

(see the abstract and column 1, first paragraph). Rege further discloses a pending-set

database 110 (see column 6, last paragraph), which includes a plurality of entries that

correspond to phases of active pilot signal at which multi-paths are believed to be

present, wherein each entry includes a pointer 210. Rege discloses that the pointer 210

indicates which, if any, demodulator 102 (finger) is assigned to the phase corresponding

to that entry. It would have been obvious to one of ordinary skill in the art at the time of

invention to modify Jeong as suggested by Rege to enhance the signal-to-noise ratio of

the combined demodulated paths in a rake receiver and as the result improve the

quality of the wireless communication (see column 7, lines 32-61).

        As to claim 19, Rege further discloses that the system is a timeslot-based system

and the measurement interval occurs on a frame-by-frame basis (see column 11, lines

21-26). It would have been obvious to one of ordinary skill in the art at the time of

invention to modify Jeong as suggested by Rege to enhance the signal-to-noise ratio of

the combined demodulated paths in a rake receiver and as the result improve the

quality of the wireless communication (see column 7, lines 32-61 and column 12, lines

8-21).

Allowable Subject Matter

4.   Claim 20 is allowed. The following is a statement of reasons for the indication of

allowable subject matter:

        As to claim 20, a comprehensive search of prior art of record failed to disclose,

either alone or in combination, an apparatus comprising: (a) a processor which includes

a path search scheduler for receiving signals from higher layers and generating

scheduling data; and (b) a memory device in communication with the processor,

wherein the memory device has a first portion for receiving the scheduling data and

storing the results of a pilot path search process performed by the path search

scheduler, and a second portion for storing the results of a pilot strength measurement

(PSM) process running on the processor, wherein the processor implements a path

position detection process and a finger assignment process for providing an assignment

to a Rake finger pool, the path position detection process searching for all multi-paths

for a plurality of wireless transmit/receive units (WTRUs) in a round-robin search order;

and (c) a path search vector correlator (VC) grid for receiving data from the first portion

of the memo~ device and providing an output which is evaluated by the PSM process to

generate evaluation results which are stored in the second portion of the memory

device for access bv the path position detection process.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Leila Malek whose telephone number is 571-272-8731.

The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only.   For

more information about the PAIR system, see http://pair-direct.uspto.gov . Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

<div style="margin-left: 50%">

Leila Malek
Examiner
Art Unit 2611

</div>

/L.M./
/Leila Malek/
Examiner, Art Unit 2611

/Mohammad H Ghayour/
Supervisory Patent Examiner, Art Unit 2611